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A Portable Cover System And Method For Vehicular Use.

Field of the Invention:

This invention relates to cover apparatus and methods
5 of sheltering objects from over exposure to environmental
elements such as the sun and damaging hail storms. More
particularly, the present invention relates to portable
cover apparatus and methods for sheltering objects as noted
above. Even more particularly, the present invention
10 relates to portable shade cover apparatus and methods of
sheltering vehicles from over exposure to the sun and of
sheltering humans from damaging sunlight when engaged in
outdoor activities.

Description of the Prior Art:

15 The unpredictable nature of the environment has caused
humans to find shelter from its elements such as the rain,
snow and sun. The shelters traditionally are permanent such
as a house for humans and garages for personal property,
such as the vehicles used by humans for transportation.
20 Since humans tend to move about in daily life, shelter from
the environment is still desirable, i.e. an umbrella
provides a suitable shelter from rain or sun, the vehicle's
cab provides better shelter than an umbrella while moving
about, a tent or canopy may provide the necessary shelter if
25 stopping outdoors for recreation purposes, or another
permanent shelter may be used to work in during the day. If
stopping for recreation purposes, dedicated tent shelters
are used by humans to shelter from the sun or rain, or other
environmental elements. As has been the case throughout
30 time, the transportation means also needs shelter, so
permanent and temporary tents have been provided for these
transportation means, be it animal or vehicular. The
shelter desired by humans for themselves or for their
transportation means, is not always provided due to the
35 combination of the shelter's bulkiness, heavy weight,

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awkwardness of assembly and oftentimes a high cost. Thus humans are continually searching for portable shelter to cover themselves or their transportation means in today's mobile society. The efforts expended in solving a portable shelter problem are typically frustrated by redesign of a particular transportation means, thereby making the shelter solution obsolete. Further the duality of the portable shelter problem is compounded, i.e. there is still a need for a portable shelter for the human and a portable shelter for the transportation means.

Prior art considered as exemplary solutions of the continuing portable sheltering problem include the following: U.S. Patent Nos. 553,735, 2,515,993, 2,605,778 and 3,304,035 pertain to umbrella type structures including fabric cover in combination with mechanical parts that articulate to permit occupancy of persons beneath the umbrella. Of particular interest in the foregoing patents is that structure that allows articulation of the umbrella member about an anchor object. While these patents solve a shelter problem, their means of anchoring is for a particular end use device, generally requiring a tubular structure, such as those found in bicycles and carts, or the like.

U.S. Patent Nos. 2,798,501, 3,036,583, 3,463,174, 4,834,128 and 4,886,083 are example solutions of portable vehicle covers teaching the use of the vehicle's weight to anchor a framework and cover combination that completely encloses the vehicle in a cocoon-like manner. The framework/cover structure of these solutions, while providing adequate sheltering for an enclosed vehicle, is viewed as awkward for storing and generally fail to provide an appealing portable cover structure. Further, the enclosed nature is not particularly appealing when shading the vehicle from the sun is the only objective of a user. In all likelihood, a high cost is associated with the

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cocoon-like structure that outweighs serious consideration in using. Another disadvantage is its dedicated nature for vehicular use, see U.S. Patent No. 2,480,509 where the use of a vehicle is taught to anchor a side tent structure for human use. See also the CARBANA protection system currently being marketed by Carbana Inc, from Syosset New York.

Other less complicated sheltering apparatus are found in U.S. Patent Nos. 1,853,742 and 3,992,053 wherein a rolled covering material is anchored at one end of a vehicle and extendably draped over the vehicle to provide sheltering. One notable disadvantage is the necessary contact with exterior finished portions of the vehicle which are not traditionally acceptable anchor points to effect the sheltering. Similar disadvantage is found in U.S. Patent No. 3,349,784 wherein anchor hooks must be utilized to secure the cover to the fenders of a vehicle and a suction cup is placed on its roof.

U.S. Patent Nos. 2,508,757 and 4,655,236 teach portable cover apparatus that shelters a vehicle, but lack versatility in use for other than vehicular application in that a base for the mast is adapted for attaching to a particular part of a vehicle. In the teachings of U.S. Patent No. 2,508,757, the parts of the vehicle are the front and rear bumper, while in the case of U.S. Patent No. 4,655,236, the part of the vehicle is the body of the tire to which the base structure must be attached. The '236 Patent specifically teaches away from mast base structures that have platforms onto which the vehicle must be driven to anchor or support the masts. While the '236 Patent does teach the advantage of having the masts at an incline, there is no mention of having arcuate adjustment coacting with the telescoping mast to simultaneously accommodate different cover sizes at different heights. Also the multiple parts that have to be assembled to form the mast base presents a certain degree of complexity that detracts from the portable

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nature for quick assembly and use. Further, the attachment method of the '236 Patent lacks appeal in that a user appears to have to wrestle a traditionally dirty vehicle tire to install the cover, which upper part of the tire is not readily accessible in many vehicles.

Although the prior art has provided many solutions for portably sheltering vehicles and humans in outdoor activities, only the umbrella and the guy wire anchored tent have been widely accepted. The solutions taught by the prior art have failed to achieve commercial success worthy of universal acceptance of luggage-type of portability and dual shelter application for both vehicular and outdoor shelter applications. The lack of commercial success of prior art teachings is observed daily by countless number of vehicles baking in the sun while the owner is at work. The impact to the environment is reflected in the fuel wasted to air condition the vehicle's interior after it has been baked in the sun.

Therefore, a need is seen to exist for a portable cover apparatus that is primarily suited for vehicular shelter applications, but that can also be readily utilized for human outdoor shelter applications.

A need is seen to exist for a portable cover apparatus that is easily setup without repeated assemblage of parts and that can be anchored by mere placement of weighted objects on platform base portions.

A need is seen to exist for a portable vehicle shade system that meets the fast setup objective of the foregoing by driving onto a platform and that can accommodate a plurality of cover sizes.

A need is seen to exist for a portable vehicle shade system that meets the fast setup objective, that is provided with alternate anchor means that allows the vehicle being driven off to form an outdoor shade structure.

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A need is seen to exist for a portable vehicle cover system that meets the foregoing and that is sized to fit in a carrying bag in acceptable luggage-type or duffel bag sizes to promote portability.

5 A need is seen to exist for a portable shade apparatus that meets the foregoing fast setup and versatile base features for both platform and stake type of anchoring and that allows use of a wide variety of cover shapes.

A need is also seen to exist for a portable cover
10 apparatus for a vehicle that makes use of traditional vehicle rooftop flanges for mounting in a piggy-back manner.

Summary of the Invention:

Accordingly, the primary object of the present invention is to provide a portable cover apparatus that is
15 primarily suited for vehicular shelter applications but that can also be readily utilized for human outdoor shelter applications.

Another object of the present invention is to provide a portable cover apparatus that is easily setup without
20 repeated assemblage of parts and that can be anchored by mere placement of weighted objects on platform base portions.

Another object of the present invention is to provide a portable vehicle shade system that meets the fast setup
25 objective of the foregoing by driving onto a platform and that can accommodate a plurality of cover sizes.

Another object of the present invention is to provide a portable vehicle shade system that meets the fast setup
objective, that is provided with alternate anchor means that
30 allows the vehicle being driven off to form an outdoor shade structure.

Another object of the present invention is to provide a portable vehicle cover system that meets the foregoing and that is sized to fit in a carrying bag in acceptable
35 luggage-type or duffel bag sizes to promote portability.

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Another object of the present invention is to provide a portable shade apparatus that meets the foregoing fast setup and versatile base features of having both platform and stake type of anchoring and that allows use of a wide variety of cover shapes. A related object of the present invention is to provide a portable cover apparatus for a vehicle that makes use of traditional vehicle rooftop flanges for mounting in a piggy-back manner.

Therefore, to the accomplishments of the foregoing objects, the invention consists of the foregoing features hereinafter fully described and particularly pointed out in the claims, the accompanying drawings and the following disclosure describing in detail the invention, such drawings and disclosure illustrating but one of the various ways in which the invention may be practiced.

Brief Description of the Drawings:

Fig. 1 is a perspective view of the present invention illustrating a vehicle shade system embodiment with emphasizes on the use of the vehicle's tire driven atop the platforms of the mast bases to effect anchoring the shade system.

Fig. 2 is a perspective view of a typical initial placement of a mast means whose combination base and mast members are easily positioned ahead of a vehicle's tire prior to driving the vehicle onto the platform member.

Fig. 3 is a closeup view of a corner portion of the cover means secured to an upper portion of the mast means, showing a hook and cover latching clamp in place.

Fig. 3A is a fragmented view of a corner portion of a mechanized cover means having a spring-loaded rod rotatably secured to a bearing means provided on an upper portion of the mast means.

Fig. 4 is a rectangular cover means shown in a mesh sunscreen fabric and adapted with a slot for accommodating an antenna typically found on vehicles, a spring-loaded rod

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is shown detached to depict a mechanized version of the cover means.

Fig. 5 is a closeup perspective view of the base platform member showing the wide surface area that allows upright positioning, the anchored state indicator bumps, an alternative set of anchor holes, the pivot and arcuate arrangement of mast mounting holes that compensate for height and size variations of the cover means.

Fig. 6 is a view of the coupled base member and mast member illustrating a telescopic unit arrangement of the mast member, the arcuately positioning of the mast member made possible by the arcuate set of holes on the mast attachment portion provided on the base.

Fig. 7 shows a cross-sectional view taken along the line 7-7 in Fig. 6 illustrating a dimpled and flared out portions on the mast units to prevent separation of the units.

Fig. 8 is a perspective view of a motorcycle sheltering application where at least one mast means is anchored by a wheel of the motorcycle and the mesh covering is secured to an extended mast member and draped over the body and secured by a lock attached to a drawstring.

Fig. 9 is an outdoor activity cover apparatus, showing a triangular shaped cover and the use of the same base as used in the vehicular application except arbitrary weighted objects and stakes are used to anchor the cover apparatus.

Fig. 10 is a perspective view of a portable cover system in kit form comprising four mast means in a retracted, ready-to-position state, a rolled cover means and stakes in case a vehicle is not to be used to anchor the setup cover system.

Fig. 11 is a vehicular cover embodiment that provides structure that allows portability by virtue of a mast means that couples to perimeter flanges commonly found on roofs of vehicles and includes a cover means having a mechanized

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member coacting with a fabric member.

Fig. 12 is a side view of the vehicle cover embodiment taken along line 12-12 in Fig. 11.

Description of the Preferred Embodiment:

5 Fig. 1 illustrates a cover apparatus 100 set up in a vehicular application providing shade S from rays R coming from the SUN. Fig. 10 shows apparatus 100 in a preferred kit form, where a bag 300 is provided for portability of a plurality of mast means 110, a cover means 130 and at least one anchor 200. Anchor means 110 is preferably manufactured from a lightweight material, such as galvanized sheet metal, or equivalent plastic material. The object being that means 110 will withstand rugged outdoor elements and user abuse. Anchor means 110 is preferably a free standing structure, including a base member 110a and a variable length mast member 110b.

As best seen in Figs. 5 and 6, base member 110a includes a first anchor facilitating means in the form of a platform 111 and a mast attachment portion 112. Platform 111 is designed having a surface area SA for effecting the free standing base state, as well as for receiving a weighted anchor object, such as a vehicle V, see Fig. 1, a concrete block B or rocks RK, see Fig. 9. Platform 111 is also provided with a second or alternate anchoring means in the form of holes 111b for receiving an anchor, such as the kit provided anchors 200 that penetrate ground G, see Fig. 1 where holes 111b and anchors 200 are optionally used to assure that apparatus 100 remains anchored when vehicle V is driven off, and Fig. 9 where a triangularly shaped cover means 130a is used in outdoor cover apparatus 500 that utilizes mast means 110 anchored by a combination weighted objects RK and B and anchors 200. Platform 111 is also provided with bumps means 111a for indicating an anchored home-position to a driver driving said vehicle V atop said platform member 111. Platform 111 is preferably designed

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having a width $d1$ such that when base means 110a is positioned forward of a tire T, mast means 110b is offset away from side of vehicle V to prevent interference and inadvertent contact with the paint and other finished body parts of vehicle V, see Figs. 2 and 5.

As shown in Figs. 5 and 6, base member 110a also includes a mast attachment portion 112 having compensating means in the form of arcuately arranged holes 112a and pivot hole 112b, for coacting with mast member 110b to accommodate placement of a variety of fixed shaped cover means over an object being sheltered. For example, cover means 130 as shown in Fig. 4, is a rectangularly shaped cover means having a length l and a width w . In a vehicular application, width w would probably remain constant, typically seven feet, while the length l would vary depending on whether a van, a pick-up, a sub-compact, compact, medium or luxury vehicle is to be sheltered, typically twelve (12) feet to eighteen (18) feet. Any one given size of cover 130 could be used at different height h (see Fig. 1) but would require articulation of mast member 110b about mast attachment portion 112. By example, Figs. 5 and 6 show mast upper end portion 114 capable of being telescopically adjusted, as indicated by arrow A1, and being secured by a retaining pin 115. Mast bottom end portion 113, which is pivotally coupled to pivot hole 112b using pivot bolt PB, is capable of being arcuately adjusted about holes 112b, as indicated by arrows A, and being securedly attached, using secure bolt SB, to a corresponding one of the plurality of arcuately arranged holes 112a upon reaching the desired height. The articulation sequence may be reversed at user's discretion. The arcuate angular spacing, by example, is approximately 15 degrees to get plus/minus 45 degrees from a 12 o'clock position of mast member 110b. The coacting feature of base member 110a with mast member 110b on every mast means 110, when arranged with other mast means

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110, as shown in Fig. 1, can accommodate many height settings h of a particularly sized cover means 130. The arcuate compensating holes 112a are particularly useful when mast means 110 are placed inward of corner eyelets 131 of cover means 130, see Fig. 1. A placement of mast means 110 directly beneath a corner eyelet 131 at different height settings, would only require telescoping adjustment of mast member 110b, leaving bolt 58 set at 12 o'clock arcuate adjustment position, see Fig. 9.

Fig. 7 shows the mast member securement feature of the present invention whereby at an upper end portion of lower mast portion 113, a dimpled or crimped portion 113a is formed for interlocking with a flared out lower end portion 114a of upper mast portion 114. Also shown in Fig. 7 is retaining pin 115 used to connect telescoping units 113 and 114 once a desired length of mast member 110b is reached. It should be understood that a plurality of unit 113n and 114n having the same interlocking and connecting arrangement 113a, 114a, as mast units 113 and 114 may be required to obtain a desired overall length of mast member 110b.

Fig. 3 shows the upper end of upper mast portion 114 having a set of keeper holes 114b for conveniently storing retaining pin 115 when mast means 110 is in a retracted state and otherwise not interconnecting mast members 113 to 114. Fig. 3 further shows a corner eyelet 131 of cover means 130 secured to a hook member 116 mechanically coupled to the distal end of upper mast portion 114. A security latching strap 116a is connected between hook member 116 and a proximate peripheral eyelet 131a.

Referring now to Figs. 1 and 2, where in Fig. 2, a mast means 110 is shown in a typical vehicular application where a base member 110a is positioned ahead of a tire T of vehicle V in a fully stopped state for subsequently being driven over bump 111a and onto platform 111. Bumps 111a are not restrictive as to require a forceful climb nor should

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they cause any tipping of the mast means 110 upon being driven onto. Mast means 110 is free standing and positioning immediately forward of tire T is for purposes of minimizing the forward distance necessary to firmly anchor mast means 110 with the vehicle. However, as a safety precaution, under no circumstances should a person P continue holding mast means 110 while vehicle V is being driven forward as indicated by arrow A2. Further, the person P should be an adult, or at minimum a person capable of following the above noted safety precaution. Adjustment of mast member 110b as indicated by arrow A and A1 is determined by the particular sheltering task at hand and thus may vary during the sequence of steps for setting up apparatus 100 to provide the necessary shelter. By example, a user may already have a preset arcuate angular setting of mast member 110a with bolt 5B securedly connecting lower mast portion 113 to mast attachment portion 112, in which case, during the initial placement of mast means 110, an initial height setting may be set by removing retaining pin 115 from a keeper hole 114b to an intermediate hole setting 114c on upper mast portion 114 through a pinning hole 113b on lower mast portion 113 as indicated by arrow A3. It should be noted that the method of connecting one mast unit to another is shown here by example only, and other equivalent methods may be employed to accomplish the same function.

Thus, as shown in Fig. 1, four mast means 110 are anchored by vehicle V's tires T driven atop of platform 111 and cover means 130 is tauntedly secured in place. Typically, after having positioned vehicle V onto base members 110a, a user person P would then secure hook member 116 to corner eyelets 131 and complete set up of apparatus 100 to a desired height setting h by extending upper mast portion 114 as indicated by arrow A4 and securing portion 114 to lower mast portion 113 using retaining means 115.

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Also shown in Fig. 1 is the alternate anchoring of mast means 110 whereby holes 111b are utilized for driving anchor means 200 therethrough into ground G. Also shown in Fig. 1 and further in Figs. 3 and 4, is a cover means 130 depicted as a shade shelter, preferably a mesh fabric M having mesh openings 133 providing, by example, 65% to 80% shading. While 100% shading is possible using canvas, or equivalent material, adverse affects may result that would detract from a preferred shading application, i.e. the impact of wind, rain, snow would have to be considered, and may require a design of component parts commensurate with the end use application. While a flat sheet design of cover means 130 may suffice for sheltering during the most intense periods of delivery of sunrays R, a side shade curtain 134 may be attached to cover means 130 using a fastener 135 connecting peripheral eyelets 131a to corresponding peripheral eyelets 134a on curtain 134. The combination of cover means 130 and side curtains 134 on all sides is preferred, as this would most effectively keep the interior of a vehicle cooler to minimize the operation of an air conditioning system and associated fuel. As another feature of cover means 130, an antenna slot 132, or equivalent, may be included if cover means 130 is custom made, or subsequently formed, to accommodate the particular location of a vehicle's antenna VX. Promotional activity is also possible by suitably allocating an advertising portion 136 to either or both cover means 130 and side curtains 134. For example, automobile dealers or used car lots could place their logos on cover means 130 and or 134 to promote their business while keeping their cars shaded. The cover apparatus 100 could be given to the consumer as part of the deal.

Fig. 4 shows, in a detached position, a spring-loaded rod 137 that may be attached to a fabric M to effect a mechanized version of the cover means 130. In such mechanized version, fabric M would be rolled and retractably

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secured by spring 137c about rod 137 and would have ends 137a and 137b adapted for rotatable attachment to respective mast upper end portion 114 that are associated with any two adjacent mast means 110 in a vehicular application. The
5 distal ends of the mast upper end portion 114 would be provided with a bearing means 116b for rotably extending cover fabric M, as indicated by arrow A5, towards the opposite mast means 110 having hook member 116, see generally Figs 3 and 3A.

10 Fig. 8 shows another vehicular application, namely a motorcycle application, where a single mast means 110 is used to support a cover means 130. The singular application of mast means 110 is depicted by example only, in that the motorcycle body provides a form conducive for such
15 application and further to illustrate the versatility of the present invention. As in the automotive application, a tire T of motorcycle MB is driven onto platform portion 111 to anchor the mast means 110. The same articulation features of mast member 110b are made possible by the telescoping
20 action of mast member 110b coaxing with the compensating means associated mast attachment portion 112 having pivot and arcuate connections PB, 112b and SB, 112a, to lower mast member 113, previously discussed. A cover means 130, having
25 mesh openings 133, is secured to an extended upper mast member 114 using hook member 116 coupled to an eyelet, such as peripheral eyelet 131a, and draped over the body and secured by a security lock SL attached to a drawstring 138.

While portability of a shelter apparatus for a vehicular and other outdoor use is most effectively
30 accomplished by application of the invention as depicted in Figs. 1, 8 and 9, Figs. 11 and 12 show a vehicular shelter apparatus 400 that provides portability in an alternative manner. Here, apparatus 400 is shown having structural features that allow portability by virtue of a mast means
35 1110 that couples to perimeter flanges RF commonly found on

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roofs of vehicles for cartop carriers and includes a cover means 1300 having a mechanized member 1310 coacting with a fabric member 1320. Cover means 1300 is attached to mast 1110 by a rigid mechanical latching means 1200. Cover means 5 1300, as shown, comprises a housing 1330 for containing fabric member 1320 coupled to mechanized member 1310 in the form of a motorized urging means that extends member 1320 as indicated by arrows A6 to shelter vehicle V.

Therefore, while the present invention has been shown 10 and described herein in what is believed to be the most practical and preferred embodiments, it is recognized that departures can be made therefore within the scope of the invention, which is therefore not to be limited to the details disclosed therein but is to be accorded the full 15 scope of the claims so as to embrace any and all equivalent apparatus.

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We Claim:

1. A portable cover apparatus, said apparatus comprising:
a cover means for providing shelter; and
a plurality of mast means for rising and supporting
5 said cover means, each one of said plurality of mast means
comprising, a variable length mast member and a free
standing base member, said base member having a first anchor
facilitating means for receiving an anchor and a mast
attachment portion having compensating means for coaxing
10 with said mast member to accommodate placement of a variety
of fixed shaped cover means over an object being shaded.
2. A portable cover apparatus as recited in claim 1,
wherein:
said variable length mast means comprises a plurality
15 of telescopically connected units for coaxing with said
compensating means and having interlocking means for
preventing separation of said units,
said compensating means comprises said mast attachment
portion having a pivot hole and a plurality of arcuately
20 arranged mounting holes, and
said mast means having a mast bottom end portion for
being pivotally attached to said pivot hole and for being
selectively attached to a one of said mounting holes.
3. A portable cover apparatus as recited in claim 2,
25 wherein said cover apparatus further comprising:
at least one anchor; and
bag means for storing said at least one anchor, said
cover means and said plurality of mast means, and for
facilitating portability of said cover apparatus, and
30 said fabric member comprises mesh sunscreen material.

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4. A portable vehicle cover apparatus, said apparatus comprising:

a cover means for providing shelter for a vehicle; and

a plurality of mast means for rising and supporting

5 said cover means, each one of said plurality of mast means comprising, a variable length mast member and a free standing base member, said base member having a first anchor facilitating means for receiving a wheel of said vehicle and a mast attachment portion having compensating means for
10 coacting with said mast member to accommodate placement of a variety fixed shaped cover means over said vehicle being shaded.

5. A portable vehicle cover apparatus as recited in claim 4 wherein:

15 said first anchor facilitating means comprises a platform member having bumps means for indicating an anchored home-position to a driver driving said vehicle atop said platform member, said platform member having a surface contact area adequate to effect said free standing base
20 member state and to accommodate a width of a vehicle's tire.

6. A portable vehicle cover apparatus as recited in claim 4, wherein:

said variable length mast member comprises a plurality of telescoping units for coacting with said compensating
25 means, said units having interlocking means for preventing separation of said units.

said compensating means comprises said mast attachment portion having a pivot hole and a plurality of arcuately arranged mounting holes, and

30 said mast member having a mast bottom end portion for being pivotally attached to said pivot hole and for being selectively attached to a one of said mounting holes.

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7. A portable vehicle cover apparatus as recited in claim 6, wherein said cover apparatus further comprising:

at least one anchor; and

5 bag means for storing said at least one anchor, said cover means and said plurality of mast means, and for facilitating portability of said cover apparatus, and said fabric member comprises mesh sunscreen material having at least one antenna receiving eyelet and having an advertisement placed on an exterior surface thereof.

10 8. A portable vehicle cover apparatus as recited in claim 4, further comprising:

at least one anchor;

a bag means for storing and carrying said cover means, said plurality of mast means and said at least one anchor, and

15 said base member further comprises a second anchor facilitating means for receiving said at least one anchor for facilitating an alternate anchoring method of said vehicle cover apparatus to a penetrable surface.

20 9. A cover apparatus, said apparatus comprising: cover means for sheltering an object positioned beneath said apparatus, said cover means comprising a fabric member coupled to a mechanical means for adjustably extending said fabric member above said object; and

25 at least one mast means for rising and supporting said cover means, said at least one mast means comprising, a variable length mast member and a free standing base member, said base member having a first anchor facilitating means for receiving an anchor and a mast attachment portion having
30 compensating means for coacting with said mast member to accommodate placement of a variety of fixed shaped cover means over an object being shaded.

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10. A cover apparatus as recited in claim 9, wherein said object comprises a vehicle having four wheels and wherein:

5 said at least one mast means comprises four mast means, said first anchor facilitating means comprising a platform portion for receiving and supporting one of said four wheels of said vehicle for purposes of anchoring said cover apparatus, said anchoring effected by driving said vehicle atop of four of said platform portions associated with respective mast means.

10.

11. A cover apparatus as recited in claim 10, wherein:

said compensating means comprises said mast attachment portion having a pivot hole and a plurality of arcuately arranged mounting holes;

15 said variable length mast member having a bottom end portion and an upper end portion, said mast bottom end portion for being pivotally secured to said pivot hole and for being selectively secured to a one of said mounting holes; and

20 said fabric member comprises mesh sunscreen material and said mechanical means comprises a spring loaded rod, said fabric member being rolled and retractably secured about said rod, said rod having ends for rotatable attachment to respective ones of said mast upper end portion
25 associated with any two adjacent mast means positioned about said vehicle.

12. A cover apparatus as recited in claim 10, wherein:

30 said compensating means comprises said mast attachment portion having a pivot hole and a plurality of arcuately arranged mounting holes;

said variable length mast member having a bottom end portion and an upper end portion, said mast bottom end portion for being pivotally secured to said pivot hole and for being selectively secured to a one of said mounting

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holes; and

said fabric member comprises mesh sunscreen material having at least one antenna receiving eyelet.

13. A cover apparatus as recited in claim 12, wherein said
5 cover apparatus further comprises:

at least one anchor; and

bag means for storing said cover means, said four mast means and said at least one anchor,

10 said base member having second anchor facilitating means for receiving said at least one anchor.

14. A cover apparatus, said apparatus comprising:

cover means for sheltering an object positioned beneath
said apparatus, said cover means comprising a fabric member
coupled to a mechanical means for adjustably extending said
15 fabric member above said object; and

at least one mast means for rising and supporting said
cover means, said at least one mast means comprising, a
detachable mast member and a free standing base member,
20 said mast member having a bottom end portion and an upper end portion, and

said base member having at least one anchor facilitating means for receiving at least one of a plurality of anchors, and

25 said base member also having a mast attachment portion having compensating means for coacting with said mast member to accommodate placement of a variety of fixed shaped cover means over an object being sheltered, and

said mast bottom end portion for being pivotally and selectively attached to said compensating means, and

30 said mast upper end portion for being detachably secured to said cover means.

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15. A cover apparatus as recited in claim 14, wherein:

said at least one anchor facilitating means comprises a platform for a receiving a weighted object atop said platform, such as a wheel of a vehicle, and for providing substantial surface contact area to effect said free standing base member state, said platform having first and second bumps to indicate a suitable anchored position of said weighted object atop said platform, such as when anchoring said cover apparatus using said vehicle.

10 16. A cover apparatus as recited in claim 15, wherein said cover apparatus further comprising:

at least one anchor; and

bag means for storing said at least one anchor, said cover means, and said at least one mast means, said bag means also facilitating portability of said cover apparatus, said mast bottom end portion and said mast upper end portion comprises a plurality of telescoping units for coaxing with said compensating means and having interlocking means for preventing separation of said units,

20 said compensating means comprises said mast attachment portion having a pivot hole and a plurality of arcuately arranged mounting holes, and

said mast bottom end portion for being pivotally attached to said pivot hole and for being selectively attached to a one of said mounting holes, and

25 said fabric member comprises mesh sunscreen material having at least one antenna receiving eyelet.

17. A cover apparatus as recited in claim 14, said apparatus further comprising:

30 at least one stake member of said plurality of anchors; and

bag means for storing said cover means, said at least one mast means and said at least one stake member and for

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facilitating portability of said cover apparatus,

said at least one anchor facilitating means having at least one opening for receiving said at least one stake member.

5 18. A cover apparatus as recited in claim 17, wherein:

another one of said at least one anchor facilitating means comprises a platform for receiving a weighted object atop said platform, such as a wheel of a vehicle, and for providing substantial surface contact area to effect said
10 free standing base member state, said platform having first and second bumps to indicate a suitable anchored position of said weighted object atop said platform, such as when anchoring said cover apparatus using said vehicle.

15 19. A method of providing portable cover, said method comprising the steps of:

(a) providing a portable cover system in kit form, said system comprising:

a bag means for storing components of said system, said components including:

20 at least one anchor,

a cover means for providing shelter, and

a plurality of mast means for rising and supporting said cover means, each one of said plurality of mast means comprising, a variable length mast member and a free
25 standing base member, said base member having a first anchor facilitating means for receiving a user supplied anchor as well as said at least one anchor and a mast attachment portion having compensating means for coaxing with said mast member for accommodating placement of a variety of
30 fixed shaped cover means over an object being sheltered;

(b) positioning said plurality of mast means at corners of a pattern that conforms to said fixed shape of said cover means;

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(c) anchoring said positioned plurality of mast means utilizing said first anchor facilitating means using either or both of said user supplied anchors or said at least one anchor;

5 (d) securing said cover means to a mast upper end portion of each one of said plurality of mast means to initiate placing said cover means over said object; and

(e) completing placement of said cover means over said object by utilizing said compensating means to coact with
10 said mast member to set said cover means at a desired height and at a fully taut geometric shape of said cover means.

20. A method of providing portable cover as recited in claim 20, wherein:

said user supplied anchor includes a wheeled vehicle
15 and said anchoring step includes driving said vehicle onto said first anchor facilitating means; and

said completing step comprises manipulating said variable length mast member about said mast attachment portion to set to a desired inclined position and
20 interconnecting telescoping unit members of said mast member.

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AMENDED CLAIMS

[received by the International Bureau on 7 November 1991 (07.11.91)
original claims 1-3 amended; remaining claims unchanged (2 pages)]

1. A portable cover apparatus, said apparatus comprising:
a fabric cover means, including detachable top and side
cover member, for providing shelter; and
a plurality of mast means for rising and supporting
5 said cover means, each one of said plurality of mast means
comprising a variable length mast member and a free standing
base member, said mast member being detachably secured to
said free standing base member,
each base member included in said plurality of mast
10 means comprising a substantially L-shaped structure having a
ground level horizontal member and a vertical mast
attachment portion,
said mast attachment portion having cover tautness
compensating means in the form of a pivot hole and a
15 plurality of arcuately arranged mounting holes for coaxing
with said detachably secured mast member to achieve a taunt
placement of said cover means over an object to be
sheltered, such as a vehicle, said L-shaped structure also
having side bracing extending from said mast attachment
20 portion and attached to respective sides of said horizontal
member,
said horizontal member being shaped to form a
first anchor facilitating means for receiving a vehicle's
wheel, said vehicle's wheel functions as a weight anchor,
25 said horizontal member having said respective
sides formed to effect, in combination with said side
bracing, off-setting said mast member away from said vehicle
to prevent inadvertent contact with a proximate side of a
vehicle's body that is utilizing said apparatus, and
30 said horizontal member having opposing bump means
for indicating to a driver that said vehicle is atop said
platform structure.

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2. A portable cover apparatus as recited in claim 1,
wherein:

5 said variable length mast means comprises a plurality
of telescopically connected units having interlocking means
for preventing separation of said units,

said horizontal member further comprises a second
anchor facilitating means for receiving a ground driven
anchor that facilitates an alternate way of anchoring said
mast means, and

10 one of said units having a mast bottom end portion for
being pivotally attached to said pivot hole and for being
selectively attached to a one of said plurality of arcuately
arranged mounting holes.

3. A portable cover apparatus as recited in claim 2,
15 wherein said cover apparatus further comprising:

at least one ground driven anchor; and

20 bag means for storing said at least one anchor, said
cover means and said plurality of mast means, and for
facilitating portability of said cover apparatus, and

said fabric cover means comprises mesh sunscreen
material, said top cover member having corner fastening
means for being detachably secured to an upper mast member,
and also having side fastening means for detachably securing
to corresponding fastening means on said side fabric cover
25 members.

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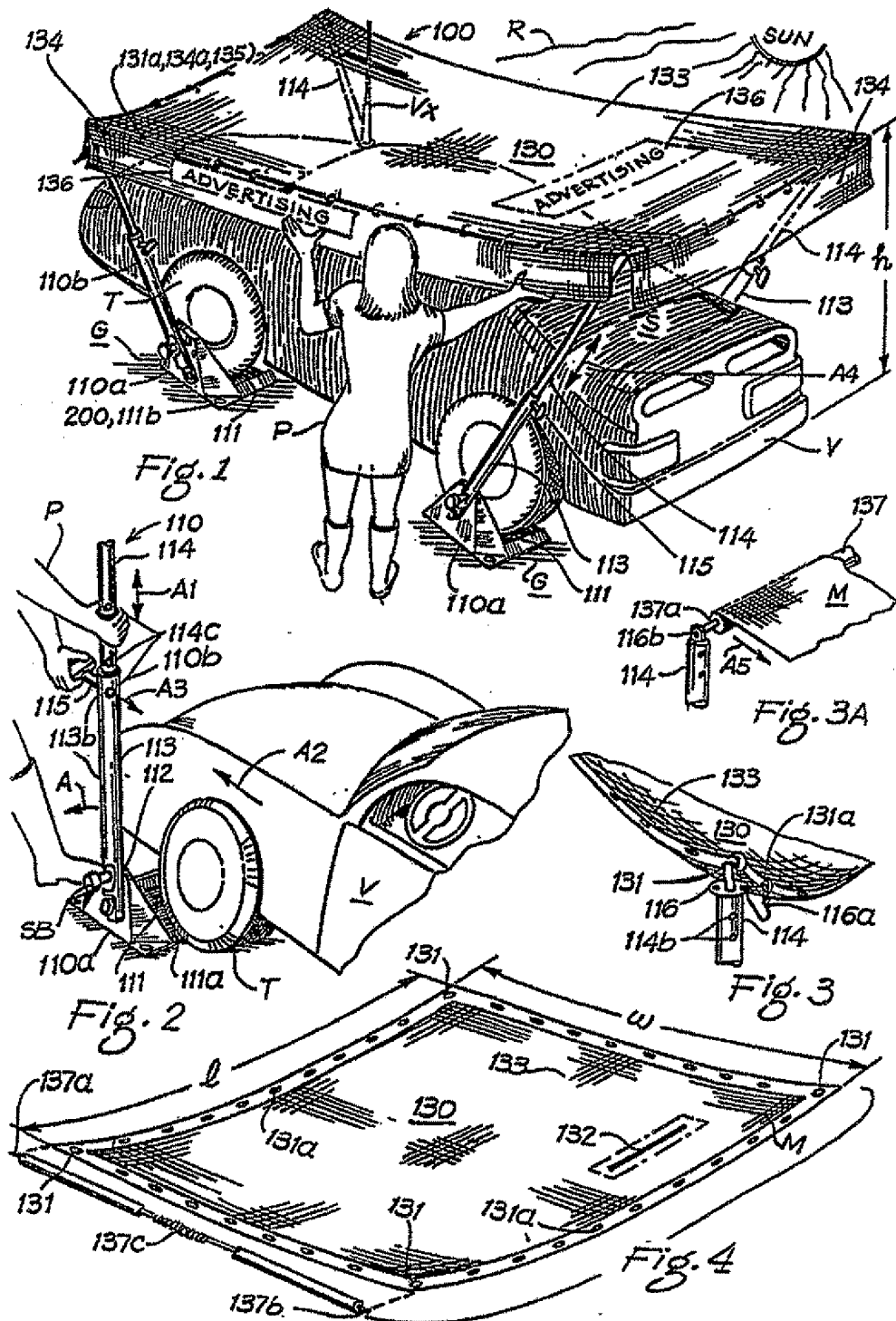
STATEMENT UNDER ARTICLE 19

Claims 4-20 have been canceled considering the noted lack of unity of invention and the teachings of the documents noted in the International Search Report as relevant to the canceled claims. Claims 1-3 have been amended considering the teachings of the documents noted in the International Search Report as relevant to claim 1-3. Claims 1-3 relate to the invention embodiment illustrated in Fig. 1 and other related Figs. 2, 5, 6 and 10. Specifically, claim 1 has been amended to recite structural details relating to the base member which are not disclosed by the documents in the International Search Report. Claims 2 and 3 depend from claim 1 and are believed to be patentably distinguishable. Please refer to the language of the included amended claims for additional details.

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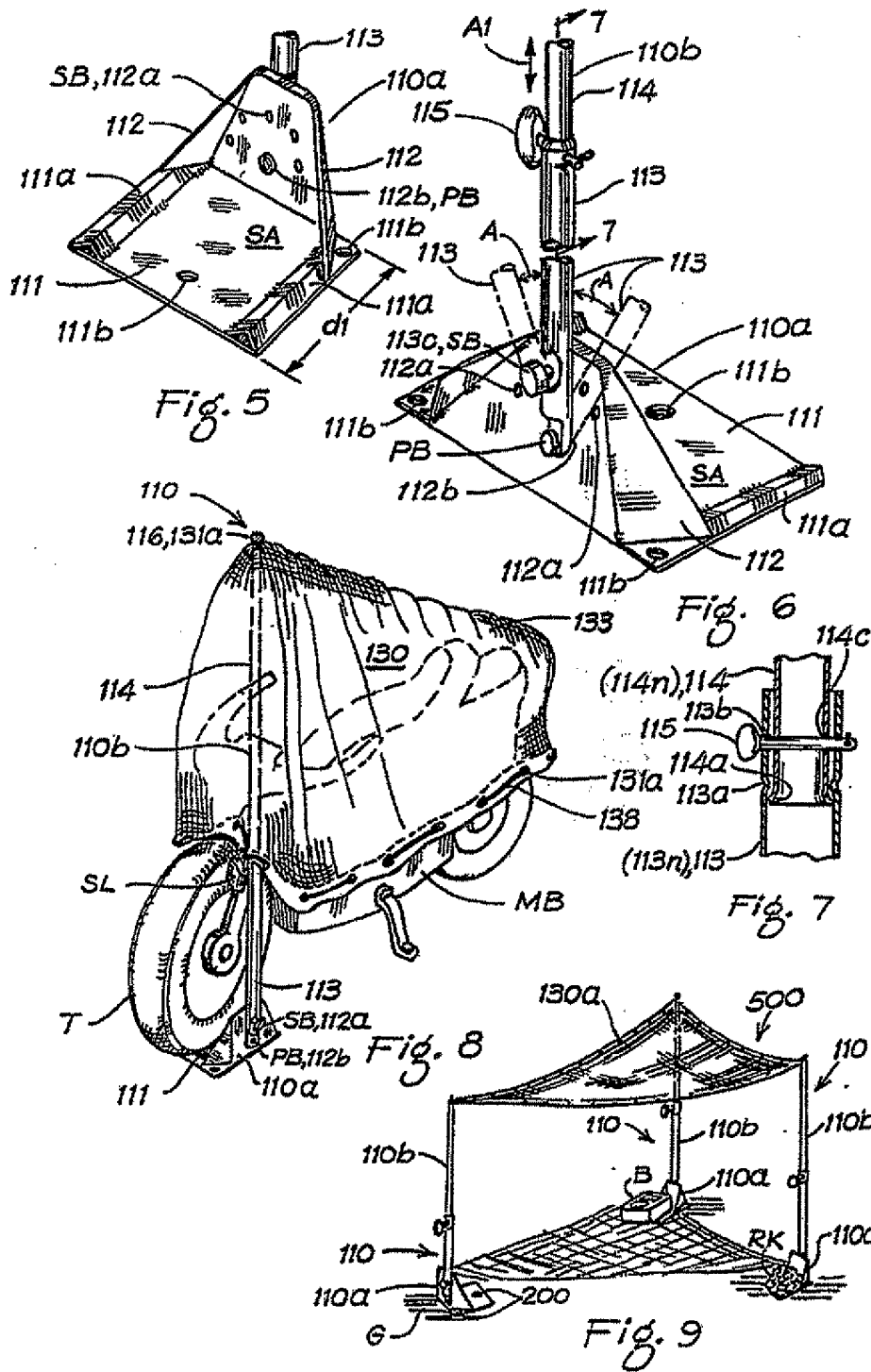


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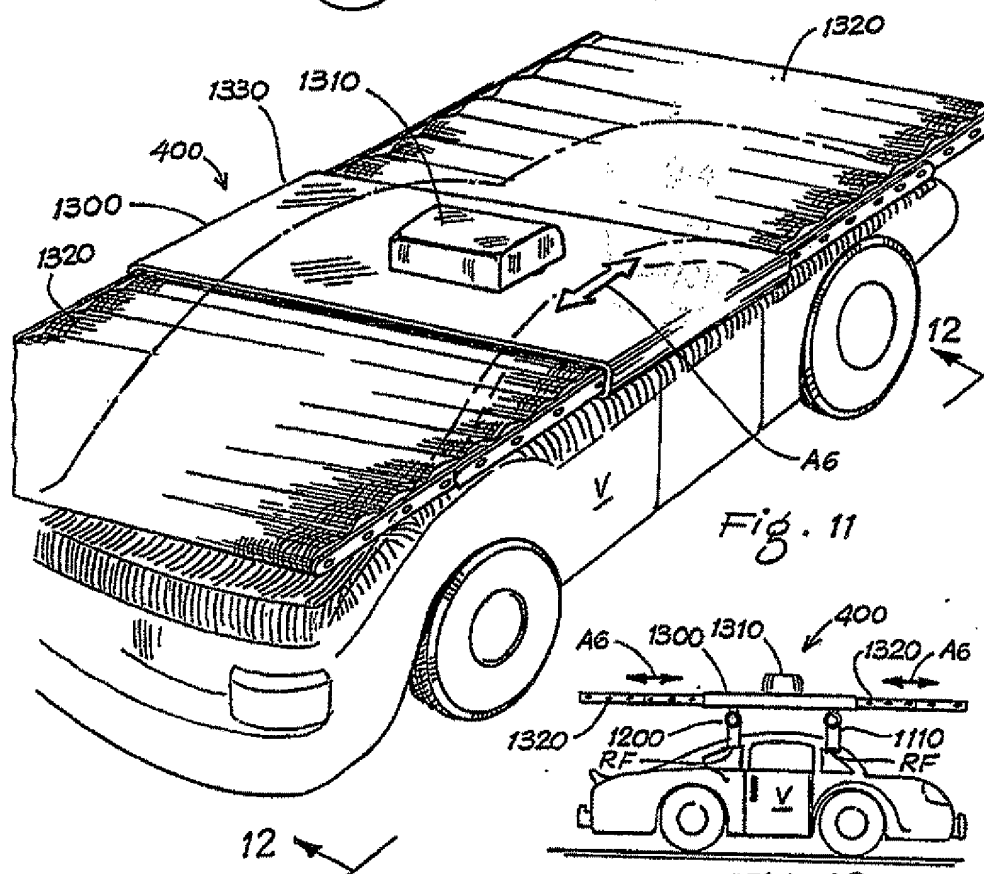
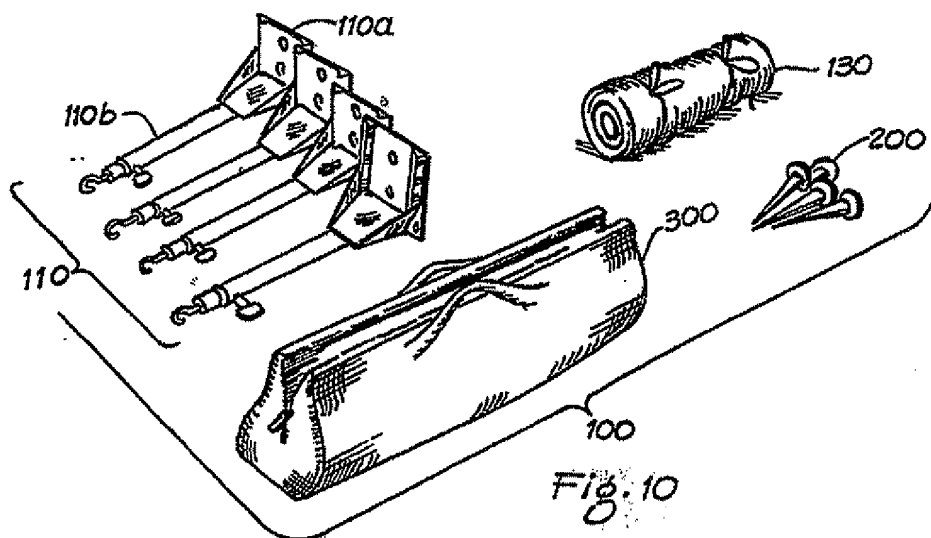


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INTERNATIONAL SEARCH REPORT

International Application No. PCT/US91/03294

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC		
IPC (5): E04H 15/06		
U.S. CL. 135/88		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
U.S. CL.	135/88,107,116	
Documentation Searched other than Minimum Documentation to the extent that such Documents are included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹		
Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
X, P	US, A, 4,944,321 (MOYET-ORTIZ) 31 July 1990 (Note figures 1 and 2)	1,19
Y	US, A, 4,655,236 (DORAME et al.) 07 April 1987 (Note mast 4 in fig. 2)	2,4,5,6,20
Y	FR, A, 1,326,938 (BORELLI) 01 April 1963 (Note bag in figure 2)	3,7,8
X	US, A, 4,605,030 (JOHNSON) 12 August 1986 (Note figures 1 and 2)	1,19
A	US, A, 4,802,500 (DAVIS et al.) 07 February 1989 (Note figures 1 and 2)	
A	CA, A, 1,033,938 (GREENHALGH) 04 July 1978	
A	FR, A, 1,437,374 (LEVI et al) 28 March 1966	
A	IT, A, 646,843 (BAYARDI) 10 October 1962	
A	DE, B, 1,247,886 (DOTZAUER) 17 August 1967	
<p>¹⁰ Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p>		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
09 August 1991	13 SEP 1991	
International Searching Authority	Signature of Authorized Officer	
ISA/US	En Lan Mai NGUYEN NGOC-HO INTERNATIONAL DIVISION	